

PATENT SPECIFICATION

978,686



NO DRAWINGS

978.686

Date of Application and filing Complete Specification: Aug. 3, 1961.

No. 28292/61.

Application made in France (No. 834,829) on Aug. 3, 1960.

Complete Specification Published: Dec. 23, 1964.

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Index at acceptance:—B8 C(14, 15B, 21A3, 22, 25D, 29B)

International Classification:—B 65 b

COMPLETE SPECIFICATION

Method of Packaging Compressible Materials

We, CELLOPHANE INVESTMENT COMPANY LIMITED, a Company organised under the Laws of Alderney, Channel Islands, of Alderney, Channel Islands, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a method of packaging readily compressible materials and is more particularly valuable in relation to the packaging of fibrous materials, for example cotton wool or textile fibres.

Cotton wool, for example as used for surgical purposes, is an extremely bulky material and its bulkiness adds considerably to the cost of storage and transport. The same applies to balls or other unsupported packages (i.e. packages not containing a supporting core) of hand knitting wool and to a number of other fibrous materials. For the purpose of this specification the phrase "hand knitting wool" includes not only hand knitting yarns made of natural wool, but also hand knitting yarns made of fibres crimped to give the appearance of wool, e.g. made of synthetic fibres such as nylon, polyacrylonitrile or polyethylene terephthalate.

According to the present invention, therefore, a material which undergoes a substantial reduction in volume when subjected to a pressure of 1 atmosphere gauge is packaged by enclosing it in an air-impermeable bag, or casing, part at least of which is made of a flexible material, evacuating the air from the bag or casing while exposing the exterior of the bag or casing to at least atmospheric pressure, and sealing the bag or casing. Preferably a heat-sealable air-impermeable material is used, the package finally being heat sealed, and the bag or casing consists entirely of flexible material. Suitable materials are polyethylene foil, cellulose acetate foil, gas-proofed transparent cellulose foil or similar casings. Polyethylene, polyvinyl chloride and cellulose

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acetate foils are particularly suitable as is cellulose foil coated with a heat-sealing composition.

By this process the pressure of the atmosphere serves to effect the compression and there is therefore little or no disturbance of the fibres. Thus, for example, a wad or roll of surgical cotton wool may be enclosed in a bag of polyethylene and a vacuum line applied to the neck of the bag so as to evacuate the air from inside the bag. If desired, the material may be still further compressed by applying a mechanical pressure to the outside of the bag but usually sufficient compression is obtained by application of the vacuum. Having evacuated the air from the bag the neck is then sealed off, as for example by heat sealing, before disconnecting the vacuum line. Balls or like packages of hand knitting wool may be similarly treated.

If desired, one or both sides of the bag or casing may be constituted by or be provided with a rigid support which may carry suitable letter-press such as a trade name or publicity. A sufficient area of the bag or casing must, however, be formed of a flexible material to enable it to collapse on applying the vacuum. Thus, bulky, compressible articles packaged according to the invention occupy considerably less than their normal volume and hence storage and transport costs are reduced. In addition, being enclosed in a sealed airless casing the articles are protected from insects, for example mites, and are immune from contamination. If desired, small amounts of insecticide may be enclosed in the bags or casings.

It is found that the natural resilience of the fibres is substantially unimpaired and on release of the vacuum the article or material returns to its initial form.

WHAT WE CLAIM IS:—

1. Process for packaging a material which undergoes a substantial reduction in volume when subjected to a pressure of 1 atmosphere gauge, which comprises enclosing the material

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- in an air-impermeable bag or casing, part at least of which is made of a flexible material, evacuating the air from the bag or casing while exposing the exterior of the bag or casing to at least atmospheric pressure, and sealing the bag or casing.
- 5 2. Process according to Claim 1, wherein the air-impermeable material is heat-sealable and the package is finally heat-sealed.
- 10 3. Process according to Claim 1 or 2, wherein the bag or casing consists entirely of the flexible material.
4. Process according to Claims 1, 2 or 3 wherein the bag or casing consists of poly-ethylene, polyvinyl chloride, or heat-sealable cellulose foil. 15
5. Process according to any of Claims 1 to 4, applied to the packaging of hand knitting wool or cotton wool.
6. Process for the packaging of compressible articles or materials according to Claim 1, substantially as hereinbefore described. 20
7. A package when obtained by a process according to any one of Claims 1 to 6.

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Leamington Spa: Printed for Her Majesty's Stationery Office, by the Courier Press
(Leamington) Ltd.—1964. Published by The Patent Office, 25 Southampton Buildings,
London, W.C.2, from which copies may be obtained.